

REMARKS

Claims 22-40 are pending and presented for examination. Applicant respectfully requests reconsideration and allowance of the pending claims in view of the following remarks.

Response To Rejections Under Section 102

Claims 22, 23, 25-32, and 34-40 stand rejected under 35 U.S.C. § 102(b), the Examiner contending that these claims are anticipated by Takahara (US 5,450,725).

Independent Claims 22 and 32

Regarding to independent claims 22 and 32, the Examiner reads that Takahara teaches all of the claimed limitations.

In the Final Office Action mailed September 29, 2008, the Examiner states that applicant asserts that the three port sections 56 are not the “first-stage”, “second-stage”, and “third stage” fuels. The Examiner further states that portions of a whole are not equivalent to stages and their specific order of execution. It appears that the Examiner agrees with Applicant’s assertion according to Applicant’s best understanding. Applicant is confused by the statement of the Examiner and respectfully requests the Examiner to clarify.

Applicant respectfully submits that applicant asserts that Takahara does not teach that the leftmost port 56 discharges a first portion of the mixture into the combustion chamber such that the first portion circulates in the combustion chamber and the middle and rightmost ports 56 injects a second portion of the mixture into the combustion chamber. Takahara merely teaches a plurality of fuel injection port 56 are, in the lengthwise direction of the pre-mixture duct 55, opened at the duct outlet port (column 9 lines 24-38 and FIG. 2). Apparently Takahara teaches that the port 56 only injects fuel into the pre-mixture duct 55, not a first portion and a second portion of the mixture of fuel and combustion air.

Furthermore, Takahara does not teach applicant claimed limitation that the second portion of the mixture is injected generally perpendicular to a direction of a hot combustion gas flowing away from the circulating mixture such that the second portion mixes with the hot combustion gas and combusts prior to exiting from the combustion chamber. Applicant respectfully requests the Examiner to clearly identify where and how Takahara teaches applicant claimed limitations.

In view of the above, Applicant respectfully submits that independent claims 22 and 32 are patentable. Applicant respectfully requests that the Examiner withdraws the Section 102 rejection.

Dependent Claims 23, 25-31, and 34-40

Dependent claims 23, 25-31, and 34-40 are patentable based on their dependency from independent claims 22 and 32 respectively as well as based on their own merit.

For example, with regard to claims 39 and 40, the Examiner states that Takahara teaches applicant claimed limitation that wherein between 5% to 25% or between 10% to 20% of a total gas mass of the combined fuel and combustion air is supplied to circulating mixture at a time (see at least column 2 lines 38-50). Applicant respectfully submits that the reference paragraph of Takahara cited by the Examiner does not teach what the Examiner contends. Rather, it merely teaches that in the pre-mixing duct 6, a passage area is maintained through which air capable of sufficiently previously lean-mixing the main fuel, which occupies 70% to 80% of the overall fuel rate, flow.

Therefore, withdrawal of the Section 102 rejection is respectfully requested.

Response To Rejections Under Section 103

Claims 24 and 33 stand rejected under 35 U.S.C. § 103(a), the examiner contending that these claims are obvious over Takahara (US 5,450,725) in view of Voorheis (US 4,629,416).

For at least the reasons discussed in connection with the Section 102 rejections, Applicant respectfully submits that these dependent claims are patentable based on their dependency from independent claims 22 and 32 respectively as well as based on their own merit. Applicant respectfully requests the Examiner to withdraw the Section 103 rejection.

Conclusion

For the foregoing reasons, it is respectfully submitted that rejections set forth in the outstanding Office Action are inapplicable to the present claims and specification. Accordingly, Applicant respectfully requests that the Examiner reconsider the rejections and timely pass the application to allowance. Please grant any extension of time required to enter this paper. The commissioner is hereby authorized to charge any appropriate fees due in connection with this paper, including the fees specified in 37 C.F.R. §§ 1.16 (c), 1.17(a)(1) and 1.20(d), or credit any overpayments to Deposit Account No. 19-2179.

Respectfully submitted,

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